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Supplemental Material

Biomarker Levels of Toxic Metals among Asian Populations in the U.S.: NHANES 2011–2012

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Supplemental Material 1: Weighted statistics of biomarker levels by NHANES racial and ethnic group

	Non-Hispanic White		Non-Hispanic Black		Mexican American		Other Hispanic		Non-Hispanic Asian		p-value ^b
	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	
	South	0.32 (0.27-0.39)	0.28 1.71	0.30 (0.28-0.32)	0.26 1.50	0.25 (0.23-0.27)	0.24 0.79	0.26 (0.24-0.28)	0.24 1.09	0.43 (0.35-0.52)	0.40 1.23
West	0.27 (0.25-0.30)	0.22 1.52	0.34 (0.26-0.44)	0.33 1.38	0.21 (0.18-0.24)	0.18 0.83	0.21 (0.16-0.26)	0.18 0.73	0.43 (0.36-0.52)	0.43 1.49	<.001
p-value ^a	0.394	0.451		0.001		0.141		0.110			

[†] Not calculated due to high frequency of non-detected results (below limit of detection). [‡] Not calculated due to small number of samples. ^a Significance of difference in geometric mean across categories within covariate. ^b Significance of difference in geometric mean across NHANES racial and ethnic groups. ^c Raw sample counts are not provided for the restricted data. Abbreviations: NHANES - National Health and Nutrition Examination Survey, GED - General Education Development, AA - Associate of Arts, BMI - Body Mass Index, CDC - Centers for Disease Control and Prevention, NCHS - National Center for Health Statistics.

	Non-Hispanic White		Non-Hispanic Black		Mexican American		Other Hispanic		Non-Hispanic Asian		p-value ^b
	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	
	South	1.00 (0.89-1.12)	0.97 3.07	0.96 (0.89-1.04)	0.86 3.87	0.93 (0.90-0.97)	0.84 3.69	0.89 (0.71-1.12)	0.85 2.73	1.27 (1.14-1.42)	1.28 3.62
West	0.90 (0.84-0.97)	0.85 2.76	0.91 (0.82-1.00)	0.80 3.31	0.73 (0.65-0.81)	0.68 2.13	0.70 (0.58-0.83)	0.64 1.89	1.09 (0.96-1.24)	1.04 2.78	<.001
p-value ^a	0.029		0.035		0.002		0.034		0.037		

^a Not calculated due to small number of samples. ^a Significance of difference in geometric mean across categories within covariate. ^b Significance of difference in geometric mean across NHANES racial and ethnic groups. ^c Raw sample counts are not provided for the restricted data. Abbreviations: NHANES - National Health and Nutrition Examination Survey, GED - General Education Development, AA - Associate of Arts, BMI - Body Mass Index, CDC - Centers for Disease Control and Prevention, NCHS - National Center for Health Statistics.

	Non-Hispanic White				Non-Hispanic Black				Mexican American				Other Hispanic				Non-Hispanic Asian				p-value ^b
	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th			
South	0.64 (0.53-0.77)	0.60 3.35	0.68 (0.50-0.94)	0.63 3.52	0.47 (0.36-0.60)	0.46 1.93	0.86 (0.68-1.10)	0.83 4.12	1.32 (1.05-1.66)	1.32 4.12	1.67 8.11	<.001									
West	0.77 (0.62-0.96)	0.71 3.97	0.56 (0.42-0.76)	0.50 2.28	0.54 (0.43-0.67)	0.52 1.85	0.68 (0.51-0.91)	0.67 3.15	2.27 (1.58-3.27)	2.27 3.15	2.65 10.57	<.001									
p-value ^a	<.001		<.001					<.001													

^a Not calculated due to small number of samples. ^b Significance of difference in geometric mean across categories within covariate. ^c Significance of difference in geometric mean across NHANES racial and ethnic groups. ^d Raw sample counts are not provided for the restricted data. Abbreviations: NHANES - National Health and Nutrition Examination Survey, GED - General Education Development, AA - Associate of Arts, BMI - Body Mass Index, CDC - Centers for Disease Control and Prevention, NCHS - National Center for Health Statistics.

	Non-Hispanic White				Non-Hispanic Black				Mexican American				Other Hispanic				Non-Hispanic Asian				p-value ^b
	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th			
South	6.71 (5.32-8.46)	5.34 48.7	7.11 (4.67-10.83)	5.85 56.2	8.93 (7.94-10.03)	7.21 65.9	9.12 (7.79-10.69)	8.84 28.1	18.1 (13.8-23.8)	14.6 86.3	<.001										
West	8.61 (7.28-10.18)	6.86 38.1	6.70 (4.27-10.49)	5.26 26.6	8.04 (6.55-9.87)	6.90 30.7	7.82 (6.59-9.26)	6.55 21.3	24.4 (18.3-32.6)	23.1 167.4	<.001										
p-value ^a	0.010		0.009		0.060		0.188		0.336												

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	Non-Hispanic White		Non-Hispanic Black		Mexican American		Other Hispanic		Non-Hispanic Asian		p-value ^b
	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	N, Geometric Mean (95% CI)	Percentile 50 th 95 th	
Midwest	3.31 (2.99-3.68)	3.11 9.53	2.81 (1.96-4.01)	2.81 8.14	2.44 (1.90-3.14)	2.33 ‡	3.58 (2.25-5.69)	3.76 ‡	9.31 (5.71-15.2)	7.41 37.7	<.001
South	3.23 (3.03-3.44)	3.17 10.63	3.06 (2.38-3.94)	2.89 10.83	3.78 (3.46-4.12)	3.85 9.11	4.82 (4.03-5.78)	4.90 10.59	7.94 (5.99-10.6)	7.02 37.2	<.001
West	4.29 (3.92-4.68)	3.98 11.81	3.65 (2.68-4.96)	3.23 12.56	4.60 (4.24-5.00)	4.61 10.56	5.15 (4.23-6.29)	5.35 ‡	10.42 (8.63-12.6)	10.19 47.5	<.001
p-value ^a	<.001	0.124		<.001		0.501		0.189			

[‡] Not calculated due to small number of samples. ^a Significance of difference in geometric mean across categories within covariate. ^b Significance of difference in geometric mean across NHANES racial and ethnic groups. ^c Raw sample counts are not provided for the restricted data. Abbreviations: NHANES - National Health and Nutrition Examination Survey, GED - General Education Development, AA - Associate of Arts, BMI - Body Mass Index, CDC - Centers for Disease Control and Prevention, NCHS - National Center for Health Statistics.

Supplemental Material 2: Weighted statistics of biomarker levels by Asian subgroup

